ARGUMENTS/REMARKS

Applicants would like to thank the examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe and claim the subject matter which applicants regard as the invention.

Claims 2-23 remain in this application. Claim 1 has been canceled.

Claims 22, 3-6, 8, 10-13, 15, 17-20, and 23 were rejected under 35 U.S.C. §102(e) as being anticipated by Sugahara *et al.* (U.S. 6,567,554 or U.S. 2003/0154687). Claims 2, 9, and 16 were rejected as being unpatentable over Sugahara in view of Chujoh *et al.* (U.S. 5,416,521). For the following reasons, the rejections are respectfully traversed.

Claim 22 recites a method including the steps of:

"providing a predetermined target code amount of a coded picture to be stored in a buffer in an apparatus";

"determining a buffer remaining amount of a coded picture stored in said buffer and not yet outputted by the apparatus";

"calculating a correction code amount based on a difference between said predetermined target code amount and said buffer remaining amount"; and

"automatically calculating an allocation code amount for every picture to be coded by adding said correction code amount to said reference target code amount"

Claim 8 recites a "rate control unit" for "calculating a target code amount generated for every picture of said inputted image to be coded" in such a manner that "the target code amount is automatically calculated by adding a correction value to a reference target code amount which is approximately constant" wherein "said correction value is calculated based upon a difference between a predetermined target value and an actual value of a buffer code amount stored in said output buffer". Claim 15 recites identical language.

The references do not suggest this language of the cited claims. In particular, the references do not suggest any "determining a buffer remaining amount" or "calculating an allocation code amount" based on a correction code amount determined from a "difference between said predetermined target code amount and said buffer remaining amount" as recited in the claims.

Specifically, there is nothing in either reference that teaches or suggests determining an actual value of a buffer code amount stored in a buffer.

In response to a previous argument filed by applicant, the Examiner points to Sugahara paragraph [0062] as teaching the "calculation of the correction code amount", but there is nothing to suggest any such calculation using the actual value of a buffer code amount stored in a buffer, as recited in the claims.

In fact, Sugahara teaches away from the cited limitation. The reference teaches that the buffer outputs a "generated amount of code message" for input to the "amount-of-code controlling unit 12" (see ¶ [0110]). Furthermore, Sugahara teaches that an error amount of codes is generated based on the difference between a target amount setting and the generated amount of codes (see ¶ [0111]). This error signal is used to ensure that the generated amount of codes approaches the target amount of codes (see ¶ [0112]).

Note that in the invention of claims 8 & 15, the target code amount is generated for each frame, and it varies by adding a correction value to an approximately constant reference target code amount which is based on a "reference coding frame rate". The correction value of the invention depends on the *actual contents* of a buffer (the "the actual value of a buffer code amount stored in a buffer") compared to a target value of the buffer. Thus, the target code amount is *varied* for each frame based on an amount of code stored in the buffer.

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In contrast, a "target amount of codes" as taught by Sugahara are controlled toward a substantially *constant* target value for a group of frames, and the target rate is based on the input signal encoding rate, which is preset (such as by a user—see paragraph [0104]) or calculated.

Specifically, the Sugahara method teaches an *error* amount that is the difference of the *target amount* and an *actual coded amount* (see paragraphs [0097] and [0111]), and thus Sugahara teaches an error signal used to maintain a nearly constant code amount via a feedback process.

As discussed above, Sugahara teaches using that error signal to maintain the actual coded amount close to the target amount (see the last sentence of paragraph [0112], where it is taught that "the amount of codes of each picture type is controlled to the target amount of codes that has been determined"). The "amount of codes that has been determined" is based only on the encoding rate of the message, which, as discussed previously, could be determined by a user (see paragraph [0104]). The error signal is thus used as a feedback signal to adjust the amount of codes to the reference value (see paragraph [0112] in its entirety).

There is no teaching in Sugahara that the amount of codes be *variable* in such a manner that depends on the *actual value* of a buffer code amount *stored* in said output buffer" as recited in the claims. Instead, Sugahara teaches that the only value monitored with respect to the buffer is the"generated amount of codes" which one skilled in the art would know is not the same as the "actual value of a buffer code amount stored in said output buffer" as recited in the claims.

Thus, the invention of claims 22, 8, and 15 use a "reference target code amount" that

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is calculated based upon a "reference coding frame rate", and then calculates a "calculated target code amount" that is based on the sum of the "reference target code amount" and the "correction value". But the correction value is not an error signal between the calculated and reference values, as taught by Sugahara. Instead, the correction value is based on the amount of code stored in the buffer versus a desired code (see discussion above), and thus could be considered instead as similar to an error signal for maintaining a buffer amount. This then typically results in a variable calculated target reference value used to maximize the utilization of the output bit rate (by maximizing buffer utilization), whereas, as discussed above, Sugahara attempts to maintain its target amount of codes close to its reference value, and thus maintain a constant amount of codes per frame (which then results in a variable output bit rate if frames are dropped, a topic of concern to the inventors).

In essence, Sugahara is attempting to maintain a "constant amount of codes" near a target value, whereas the invention as claimed is attempting to maintain a buffer storage near a target value, and thus avoid underutilizing data. These are thus different processes, and different results. Accordingly, claims 22, 8, and 15 are patentable over Sugahara.

In addition, Chujoh does not overcome the shortcomings of Sugahara. Because the remaining claims depend, directly or indirectly, upon one of claims 8, 15, and 22, each is patentable over Sugahara and/or the combination of Sugahara with Chujoh for at least the same reasons as the parent claim.

Further, the Examiner has not provided the proper motivation for combining the references. The burden is on the Examiner to make a prima facie case of obviousness (MPEP §2142). To support a prima facie case of obviousness, the Examiner must show that there is some *suggestion* or *motivation* to modify the reference (MPEP §2143.01). The mere fact that

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references *can* be combined or modified, alone, is not sufficient to establish prima facie

obviousness (*Id.*). The prior art must also suggest the *desirability* of the combination (*Id.*).

The fact that the claimed invention is within the *capabilities* of one of ordinary skill in the art

is not sufficient, by itself, to establish prima facie obviousness (*Id.*).

The Examiner has cited no support for any such suggestion or motivation for the

combination from within the references, and neither does the Examiner provide any

references supporting any motivation to modify the reference(s) by making the combination.

Accordingly, the rejection for obviousness is not supported by the Office action and

thus the rejection is improper, and should be withdrawn.

In consideration of the foregoing analysis, it is respectfully submitted that the present

application is in a condition for allowance and notice to that effect is hereby requested. If it is

determined that the application is not in a condition for allowance, the examiner is invited to

initiate a telephone interview with the undersigned attorney to expedite prosecution of the

present application.

If there are any additional fees resulting from this communication, please charge same

to our Deposit Account No. 16-0820, our Order No. 34168.

Respectfully submitted,
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